

WHAT IS CLAIMED IS:

1 1. For use in a Radio Access Network of a telecommunications system, a
2 method comprising deriving control parameters for controlling an in-and-out-of-
3 synchronization detection algorithm for a set of combined radio links (radio link set)
4 from corresponding cell based parameters.

1 2. A method according to claim 1 where the control parameters for controlling
2 the in-and-out-of-synchronization detection algorithm for a set of combined radio links
3 (radio link set) are derived from the corresponding cell based parameters of the cells of
4 the individual Radio Links of a set of combined radio links (radio link set) in a base
5 station.

1 3. A method according to claim 2 where the control parameters are derived by
2 taking the largest value of the corresponding cell based parameters.

1 4. A method according to claim 2 where the control parameters are derived by
2 taking the lowest value of the corresponding cell based parameters.

1 5. A method according to claim 2 where the control parameters are derived by
2 taking a weighed or non-weighed average value of the corresponding cell based
3 parameters.

1 6. A method according to claim 2 where the control parameters are derived
2 according to any of the methods in claims 3, 4, and 5 for each individual control
3 parameter.

1 7. A method according to claim 1 where the control parameters for controlling
2 the in-and-out-of-synchronization detection algorithm for a set of combined radio links
3 (radio link set) are derived from the corresponding cell based parameters of all cells in
4 the base station.

1 8. A method according to claim 7 where the control parameters are derived by
2 taking the largest value of the corresponding cell based parameters.

1 9. A method according to claim 7 where the control parameters are derived by
2 taking the lowest value of the corresponding cell based parameters.

1 10. A method according to claim 7 where the control parameters are derived by
2 taking a weighed or non-weighed average value of the corresponding cell based
3 parameters.

1 11. A method according to claim 7 where the control parameters are derived
2 according to any of the methods in claims 8, 9, and 10 for each individual control
3 parameter.

1 12. A method according to claim 1 where the control parameters for controlling
2 the in-and-out-of-synchronization detection algorithm for a set of combined radio links
3 (radio link set) are derived from the corresponding cell based parameters of any
4 potential radio link set in a base station, where a potential radio link set corresponds to
5 any combination of one or more cells in a base station.

1 13. A method according to claim 12 where the control parameters are derived by
2 taking the largest value of the corresponding cell based parameters.

1 14. A method according to claim 12 where the control parameters are derived by
2 taking the lowest value of the corresponding cell based parameters.

1 15. A method according to claim 12 where the control parameters are derived by
2 taking a weighed or non-weighed average value of the corresponding cell based
3 parameters.

1 16. A method according to claim 12 where the control parameters are derived
2 according to any of the methods in claims 13, 14, and 15 for each individual control
3 parameter.

1 17. A method according to claim 1 where the control parameters controlling the
2 in-and-out-of-synchronization detection algorithm for a set of combined radio links
3 (radio link set) is controlled by parameters that are derived from the corresponding cell

4 based parameters using any combination of the methods in claims 2, 7, and 12 for the
5 individual control parameters.

1 18. A method according to claim 17 where the control parameters are derived by
2 taking the largest value of the corresponding cell based parameters.

1 19. A method according to claim 17 where the control parameters are derived by
2 taking the lowest value of the corresponding cell based parameters.

1 20. A method according to claim 17 where the control parameters are derived by
2 taking a weighed or non-weighed average value of the corresponding cell based
3 parameters.

1 21. A method according to claim 17 where the control parameters are derived
2 according to any of the methods in claims 18, 19, and 20 for each individual control
3 parameter.

1 22 A radio access network of a telecommunications system comprising:
2 an in-and-out of synchronization detector which judges reception quality of a
3 connection with a mobile user equipment unit;
4 a control parameter determination function which determines control parameters
5 to be utilized by the in-and-out of synchronization detector, the control parameter
6 determination function determining the control parameters for a set of combined radio
7 links (radio link set) from corresponding cell based parameters.

1 23. An apparatus according to claim 22, wherein the control parameter
2 determination function derives the control parameters for controlling the in-and-out-of-
3 synchronization detector for a set of combined radio links (radio link set) from the
4 corresponding cell based parameters of the cells of the individual Radio Links of a set
5 of combined radio links (radio link set) in a base station.

1 24. An apparatus according to claim 23, wherein the control parameters are
2 derived by taking the largest value of the corresponding cell based parameters.

1 25. An apparatus according to claim 23, wherein the control parameters are
2 derived by taking the lowest value of the corresponding cell based parameters.

1 26. An apparatus according to claim 23, wherein the control parameters are
2 derived by taking a weighed or non-weighed average value of the corresponding cell
3 based parameters.

1 27. An apparatus according to claim 23, wherein the control parameters are
2 derived according to any of the methods in claims 24, 25, and 26 for each individual
3 control parameter.

1 28. An apparatus according to claim 22, wherein the control parameter
2 determination function derives the control parameters for controlling the in-and-out-of-
3 synchronization detection algorithm for a set of combined radio links (radio link set)
4 from the corresponding cell based parameters of all cells in the base station.

1 29. An apparatus according to claim 28, wherein the control parameters are
2 derived by taking the largest value of the corresponding cell based parameters.

1 30. An apparatus according to claim 28, wherein the control parameters are
2 derived by taking the lowest value of the corresponding cell based parameters.

1 31. An apparatus according to claim 28, wherein the control parameters are
2 derived by taking a weighed or non-weighed average value of the corresponding cell
3 based parameters.

1 32. An apparatus according to claim 28, wherein the control parameters are
2 derived according to any of the methods in claims 29, 30, and 31 for each individual
3 control parameter.

1 33. An apparatus according to claim 22, wherein the control parameter
2 determination function derives the control parameters for controlling the in-and-out-of-
3 synchronization detection algorithm for a set of combined radio links (radio link set)
4 from the corresponding cell based parameters of any potential radio link set in a base

5 station, where a potential radio link set corresponds to any combination of one or more
6 cells in a base station.

1 34. An apparatus according to claim 33, wherein the control parameters are
2 derived by taking the largest value of the corresponding cell based parameters.

1 35. An apparatus according to claim 33, wherein the control parameters are
2 derived by taking the lowest value of the corresponding cell based parameters.

1 36. An apparatus according to claim 33, wherein the control parameters are
2 derived by taking a weighed or non-weighed average value of the corresponding cell
3 based parameters.

1 37. An apparatus according to claim 33, wherein the control parameters are
2 derived according to any of the methods in claims 34, 35, and 36 for each individual
3 control parameter.

1 38. An apparatus according to claim 22, wherein the control parameter
2 determination function derives the control parameters controlling the in-and-out-of-
3 synchronization detection algorithm for a set of combined radio links (radio link set)
4 from the corresponding cell based parameters using any combination of the methods in
5 claims 23, 28, and 33 for the individual control parameters.

1 39. An apparatus according to claim 38, wherein the control parameters are
2 derived by taking the largest value of the corresponding cell based parameters.

1 40. An apparatus according to claim 38, wherein the control parameters are
2 derived by taking the lowest value of the corresponding cell based parameters.

1 41. An apparatus according to claim 38, wherein the control parameters are
2 derived by taking a weighed or non-weighed average value of the corresponding cell
3 based parameters.

1 42. An apparatus according to claim 38, wherein the control parameters are
2 derived according to any of the methods in claims 39, 40, and 41 for each individual
3 control parameter.

1 43. An apparatus according to claim 22, wherein the in-and-out of
2 synchronization detector is situated at a base station of the radio access network.

1 44. An apparatus according to claim 22, wherein the control parameter
2 determination function is situated at a radio network control (RNC) node of the radio
3 access network.

1 45. An apparatus according to claim 22, wherein the control parameter
2 determination function is situated at a base station of the radio access network.

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